

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1. (Original) A probe assembly for use in the extraction of analytes from a sample, which probe includes an elongate cylinder portion which is arranged to rotate about its longitudinal axis, and having thereon one or more veins extending away from the cylinder portion.
2. (Original) A probe assembly according to claim 1, which is coated with solid phase as a means for extracting materials.
3. (Currently Amended) A probe assembly according to ~~any preceding claim 2~~, wherein the probe is shaped to maximise the area of the solid phase on the probe that is in contact with ~~the liquid phase, preferably the shape causes movement within the liquid such that there is a continuous exchange of liquid in contact with the solid phase.~~
4. (Currently Amended) A probe assembly according to ~~any preceding claim 1~~, wherein the extracting element is connected directly to a means of rotation, and/or the probe is arranged to be rotated in the sample.
5. (Currently Amended) A probe assembly according to ~~any preceding claim 1~~, wherein the probe is arranged to be an impellar in the sample.
6. (Currently Amended) A probe assembly according to ~~any preceding claim 1~~, wherein the probe includes a rotating device.

7. (Currently Amended) A probe assembly according to ~~any preceding claim 1~~, wherein the vein is in the form of paddles, shoulders, or blades ~~or the like~~, extending from the cylinder portion, ~~preferably the vein is arranged to extend substantially around the cylinder portion so as to form a spiral thread.~~

8. (Currently Amended) A probe assembly according to ~~any preceding claim 1~~, wherein the elongate cylinder and/or the veins are~~may be~~ coated with a sorbent coating ~~such as a polymethylsiloxane, polyethylene glycol, silicone, polyimide, octadecylchlorosilane, polymethylvinyl chlorosilane, liquid crystal polyacrylates, grafted self organised monomolecular layers and inorganic coating materials.~~

9. (Currently Amended) A probe assembly according to ~~any preceding claim 1~~, wherein the elongate cylinder is substantially hollow along its length.

10. (Currently Amended) A probe assembly according to claim 9, wherein the hollow elongate cylinder includes one or more apertures or perforations, the apertures or perforations being arranged to permit gas to flow through the walls of the cylinder, or

wherein the probe includes a sparger, ~~such as a sintered glass frit~~ to provide a diffuse stream of gas bubbles.

11. (Currently Amended) A probe assembly according to ~~any preceding claim 1~~, wherein the probe further includes a sheath, ~~preferably arranged to pierce or penetrate a septum.~~

12. (Currently Amended) A probe assembly according to ~~any preceding claim 11~~, which includes an elevation device arranged to move the elongate cylinder relative to the sheath.

13. (Currently Amended) A probe assembly according to ~~any preceding claim 11~~, wherein an internal surface of the sheath and/or the elongate cylinder ~~may be~~are coated.

14. (Currently Amended) A probe assembly according to ~~any preceding claim 1~~, wherein the probe includes a heating device.

15. (Currently Amended) A probe assembly according to ~~any preceding claim 1~~, which includes a housing having at least one inlet and at least one outlet arranged to permit entry and exit of gas to the probe assembly.

16. (New) A probe assembly according to claim 7, wherein the vein is arranged to extend substantially around the cylinder portion so as to form a spiral thread.

17. (New) A probe assembly according to claim 8, wherein the sorbent coating comprises polymethylsiloxane, polyethylene glycol, silicone, polyimide, octadecylchlorosilane, polymethylvinyl chlorosilane, liquid crystal polyacrylates, grafted self organised monomolecular layers or inorganic coating materials.

18. (New) A probe assembly according to claim 10, wherein the sparger comprises a sintered glass frit.

19. (New) A probe assembly according to claim 11, wherein the sheath is arranged to pierce or penetrate a septum.

20. (New) A probe assembly according to claim 3, wherein the shape causes movement within the liquid such that there is a continuous exchange of liquid in contact with the solid phase.